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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ABELSON, RONALD B

ART UNIT PAPER NUMBER

2666

DATE MAILED: 12/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/287,570

Applicant(s)

USHIROKAWA ET AL.

Examiner

Ronald Abelson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16,17,40,41,64,65,73,75-82,89,90 and 149-153 is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☒ Claim(s) See Continuation Sheet is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Claim Objections

1. Claim 3 is objected to because of the following informalities: A period is missing at the end of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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2. Claims 1, 2, 7, 18 - 26, 31, 42 - 50, 66 - 70, 74, 88, 91 - 93, 96, 97, 107-115, 125-132, 133, 143-148, are rejected under 35 U.S.C. 102(e) as being anticipated by Dahlman (US 5,896,368).

Regarding claims 1, 7, 25, 31, 49, and 96, Dahlman teaches a method and apparatus for a mobile communication system (fig. 1 box 120 a-m, col. 4 line 63 - col. 5 line 21). The transmission control means for providing a vacant period / compressed mode, in which no data is present, in one or more communication frames, (fig. 3B, col. 3 line 19 - 30), and inserting a first control signal for maintaining a communication quality in said vacant period (pilot signal, col. 8 line 66 - col. 9 line 15).

Regarding claims 18, 42, 66, 91, 107, 125, and 143 a vacant period is provided by compressing transmission data in communication in a communication time link (fig. 3B, col. 3 line 59 - col. 4 line 3).

Regarding claims 19, 43, 67, 92, 108, 126, and 144 communication mode is switched into a mode where said vacant period is provided at a predetermined time interval (duty cycle, normal mode, compressed mode, col. 9 lines 56 - 62, col. 10 lines 19 - 29).

Regarding claims 20, 44, 68, 93, 109, 127, and 145 communication is switched into a mode where said vacant period

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is provided by issuing a notice from base station to mobile station (col. 8 lines 61-64).

Regarding claims 21, 45, 69, 110, 128, and 146 a communication mode is switched depending upon a link quality condition (radio propagation conditions, other interfering factors, col. 9 lines 20 - 24).

Regarding claims 22, 46, 70, 111, 129, and 147 a communication mode is switched depending upon congestion (interfering factors, col. 9 lines 16 - 30).

Regarding claims 74, 88, 96, 114, and 132, in addition to the limitations listed in claim 1, Dahlman teaches a power control signal includes transmission power control information for reverse link (col. 6 lines 49-52).

Regarding claim 72, as previously stated in claim 1, Dahlman teaches a transmitting means for generating and transmitting transmission power control information for a forward link according to reception quality. Dahlman teaches transmitting the pilot signal to perform handoff, which is a form of power control for the forward link (col. 7 lines 59-67), see Response to Arguments for detailed explanation. In addition, Dahlman teaches a quality measuring means performed during a

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vacant/idle period and measuring the reception quality on the basis of the pilot (col. 9 lines 6 - 11).

Regarding claims 23, 47, 71, 94, 112, 130, and 148 the communication mode being switched into a mode with a vacant period by issuing a notice from the mobile to the base station is inherent in the system of Dahlman.

Dahlman states the compressed mode is used intermittently at a rate determined by the mobile station or network (col. 9 lines 16 - 30). Therefore, a notification means must exist for the mobile station to inform the base station to change the transmission mode.

Regarding claims 24, 48, 95, 113, and 131, in addition to the limitations listed in claims 23, 47, 112, and 130, Dahlman teaches switching the communication mode based upon link quality (radio propagation conditions and other interfering factors, col. 9 lines 20-24).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 26, 50, 97, 115, and 133 rejected under 35

U.S.C. 103(a) as being unpatentable over Dahlman as applied to claims 1, 25, 49, 96, 114, and 132 above, and further in view of Higashi (US 5,692,015).

Dahlman fails to teach pilot signals are broadcast at predetermined time intervals.

Higashi teach pilot signals are broadcast at predetermined time intervals (fig. 1, col. 1 lines 38-40).

Therefore it would have been obvious to one of ordinary skill in the art, having both Dahlman and Higashi before him/her and with the teachings [a] as shown by Dahlman, a mobile communication system comprising a transmission control means for providing a vacant period / compressed mode, in which no data is present, in one or more communication frames, and inserting a first control signal for maintaining a communication quality in said vacant period, and [b] as shown by Higashi, pilot signals are broadcast at predetermined time intervals, to be motivated to modify the system of Dahlman by broadcasting the pilot signals at constant time intervals. This would improve the

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system of Dahlman since the mobiles would know how often the base stations are transmitting pilot signals.

Response to Arguments

5. Applicant's arguments filed 11/20/02 regarding claims 1, 18-22, 25, 42-46, 49, 50, 66-70, 72, and 91-93 have been fully considered but they are not persuasive. The applicant states that Dahlman does not teach a first control signal that includes a pilot signal to be used for transmission power control for a forward link (applicant: pg. 31 lines 6-14). The examiner disagrees. In the system of Dahlman, the "compressed mode transmission" is used to perform handover candidate evaluation (Dahlman: col. 7 lines 59-67). Handover is a form of power control since during handover base stations may add or delete connections to mobiles. Dahlman teaches that a mobile is free to scan for other base stations during the idle time of the base station that it is currently linked (Dahlman: col. 8 line 66 - col. 9 line 11). Furthermore, the mobile is scanning for the pilot signal from the other base stations (col. 9 lines 6-7). The examiner takes notice that the claims referenced above do not mention a power control bit (applicant: pg. 31 line 9), however Dahlman does teach power control bits (Dahlman: col. 6 lines 49-50).

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6. Regarding claims 23-24, 47-48, 71, and 94-95 (applicant: pg. 32 lines 1-11), the applicant teaches that the communication mode is switched to vacant by issuing a notice from the mobile to the base station. As previously stated in the prior office action, Dahlman teaches the compressed mode is used intermittently at a rate determined by the mobile (col. 9 lines 16-17). Therefore, it is obvious that a method must exist for the mobile station to inform the base station to change the transmission mode providing for a compressed mode.

7. The examiner agrees with the applicant's contention that the third control signal taught in claims 16, 17, 40, 41, 64, 65, 78-82, and 92 is not found in the prior art of record.

Allowable Subject Matter

8. Claims 16, 17, 40, 41, 64, 65, 73, 75-82, 89, 90, and 149-153 are allowed.

9. Claims 3, 4, 6, 8, 9, 11, 12, 14, 27, 28, 30, 32, 33, 35, 36, 38, 39, 51, 52, 54, 56, 57, 59, 60, 62, 63, 98-106, 116-124, and 134-142 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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10. The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 3, 27, 51, 98, 116, 134, nothing in the prior art of the record teaches or fairly suggests the length of the time interval of the first control signal inserted in the vacant period is longer than the time interval of the first control signal in the communication frame that does not include any vacant periods, in combination with the other limitations listed in the claim. Regarding claims 6, 30, 40, 41, 54, 64, 65, 100, 118, 136 nothing in the prior art of the record teaches or fairly suggests a third control signal, in combination with the other limitations listed in the claim. Regarding claims 4, 16, 17, 28, 52, 75-82, 99, 117, 135, and 149-153, nothing in the prior art of the record teaches or fairly suggests receiving a second control signal at a timing immediately before a vacant period, in combination with the other limitations listed in the claim. Regarding claim 73, the prior art of the record does not teach or nor fairly suggest the pilot signal used for demodulation, in combination with the other limitations listed in the claim.

Conclusion

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11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

RA

Ronald Abelson
Examiner
Art Unit 2666

RA

December 10, 2002

Seema S. Rao
Supervisory Patent Examiner
AU 2666
December 10, 2002
Official fax number: 703-872-9314

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Continuation of Disposition of Claims: Claims pending in the application are 1-4,6,8,9,11,12,14-28,30,32,33,35,36,38-52,54,56,57,59,60,62-82 and 88-153.

Continuation of Disposition of Claims: Claims rejected are 1, 2, 7, 18 - 26, 31, 42 - 50, 66 - 72, 74, 88, 91 - 97, 107-115, 125-133, and 143-148.

Continuation of Disposition of Claims: Claims objected to are

3,4,6,8,9,11,12,14,27,28,30,32,33,35,36,38,39,51,52,54,56,57,59,60,62,63,98-106,116-124 and 134-142.